

REMARKS

Please reconsider this application in view of the above amendments and following remarks. Applicant thanks the Examiner for carefully reconsidering this application.

Disposition of Claims

Claims 1-10 are pending in this application. Claims 1 and 8 are independent. The remaining claims depend, directly or indirectly, from claims 1 and 8.

Claim Amendments

Claims 1-4, 7, and 8 have been amended in this reply to correct translation errors and misspellings provided within the originally filed application. Accordingly, Applicant notes that these amendments are fully supported by the originally filed application and no new matter has been added.

Specification and Abstract Amendments

The specification has been amended in paragraphs [0002], [0003], [0005]-[0007], [0011], [0012], [0020], [0022], [0024], [0026], [0027], [0032], [0033], and [0038], and the abstract has been amended in this reply. These amendments are to correct translation errors and misspellings that were provided with the originally filed application. Accordingly, Applicant notes that these amendments are fully supported by the originally filed application and no new matter has been added.

Claim Rejections under 35 U.S.C. § 112

Claims 1-10 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant

regards as the invention. Claims 1-4, 7, and 8 have been amended in this reply. To the extent that this rejection applies to claim 1 as amended, this rejection is respectfully traversed.

With respect to the rejection of "on3" recited in claim 1, the Examiner asserts that this limitation is unclear. Accordingly, this limitation has been amended to recite "one," thereby correcting the spelling of this limitation. Withdrawal of this rejection is respectfully requested.

With respect to the rejection of "colled" recited in claims 1 and 4, the Examiner asserts that this limitation should instead be "cooled." Accordingly, this limitation has been amended to correctly recite "cooled." Withdrawal of this rejection is respectfully requested.

With respect to the rejection of "isentropically" recited in claim 1, the Examiner asserts that this limitation should instead be "isentropically." Accordingly, this limitation has been amended to correctly recite "isentropically." Withdrawal of this rejection is respectfully requested.

With respect to the rejection of "closed" recited in claim 1, the Examiner asserts that this limitation is confusing. Accordingly, this limitation has been amended to recite "close," thereby correcting the spelling of this limitation. Withdrawal of this rejection is respectfully requested.

With respect to the rejection of "wells tream" recited in claims 1 and 8, the Examiner asserts that this limitation should instead be "well stream." Accordingly, this limitation has been amended to correctly recite "well stream." Withdrawal of this rejection is respectfully requested.

With respect to the rejection of "o" recited in claim 3, the Examiner asserts that this limitation should instead be "of." Accordingly, this limitation has been amended to

correctly recite "of," thereby correcting the spelling of this limitation. Withdrawal of this rejection is respectfully requested.

With respect to claim 1, the Examiner asserts that it is not clearly claimed how a condensed well stream product is formed from condensates leaving the end of the turbine and other condensates not leaving the end of the turbine. Accordingly, claim 1 has been amended to recite having the condensates from the exit of the expander also combine with condensates drawn off the between stages of the expander. Thus, the condensates are provided from the expander, but different portions of the condensates are provided at different times from the expander. Withdrawal of this rejection is respectfully requested.

Claim Rejections under 35 U.S.C. § 103

Rejection of Claims 1, 6, and 7

Claims 1, 6, and 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,645,522 ("Dobrotwir") in view of in view of PCT Patent Publication No. W.O. 96/17766 ("Den"). Independent claim 1 has been amended in this reply. To the extent that this rejection applies to this claim as amended, this rejection is respectfully traversed.

Independent claim 1 recites a method of condensing an unprocessed well stream from an offshore gas or gas condensate field. The well stream is fed from one or more wellheads through a cooling loop in the sea to be cooled by the surrounding water to a temperature just above the hydrate temperature of the well stream and then feeding the cooled well stream to an expander for the expansion thereof. The unprocessed well stream is expanded isentropically, or near isentropically, to a state in which the pressure is close to that of a storage tank such that part of the well stream is condensed, and condensed fractions of the prior to

expansion, unprocessed, well stream are drawn off between stages of the expander and fed to the storage tank along with condensation products from the exit of the expander. This produces, without any preprocessing, a condensed well stream product made of a mixture of liquids and solids (LUWS) which is collected in the storage tank for transport therefrom to land.

Dobrotwir discloses, particularly in Figure 1, a process scheme for selectively separating petroleum fractions. The process includes having a reservoir fluid fed from a well head 1 and then reduced in pressure across a well head choke valve 2. Condensate and gas from the reservoir fluid are separated from each other with the inlet gas scrubber 3, in which the condensate is routed to the condensate separator 4 and the gas is routed to the first expansion turbine 5. Condensation formed within the expansion turbine 5 is fed to a drum 7, and then the liquid is drawn from the drum 7 to the separator 4. However, as required by independent claim 1 and noted by the Examiner on page 4 of the Office Action dated February 5, 2008, Dobrotwir fails to show or suggest using the seawater to cool the incoming reservoir fluid from the well head.

As such, Den shows in Figure 1 a method and a system for offshore production of liquefied natural gas ("LNG"). The natural gas is supplied from an underground source 4 to a subsea production plant 1. Using the production plant 1, gas is transferred under high pressure from the production plant 1 to an LNG tanker 6 using a pipeline 5. The pipeline 5 is surrounded by sea water, thereby causing the temperature of the high pressure gas to be lowered to a desired temperature.

In determining obviousness, prior art references must be considered in their entirety. *W.L. Gore Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1550 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). "The mere fact that references can be modified in the manner

suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification.” *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992). Further, a *prima facie* case of obviousness requires that all claim limitations be taught or suggested by the prior art. See *In re Royka*, 490 F.2d 981 (CCPA 1974); MPEP §§ 706.02(j), 2143.03. If even a single claim limitation is not taught or suggested by the prior art, then that claim cannot be obvious over the prior art. *Id.*

Accordingly, Applicant respectfully asserts that Dobrotwir and Den, whether considered separately or in combination, fail to teach all of the elements of independent claim 1 as amended. Specifically, claim 1 requires not only having the condensation products from the exit of the expander be fed to the storage tank, but claim 1 additionally requires that condensed fractions from the unprocessed well stream all be drawn off *between stages of the expander* and be fed to the storage tank. For example, as shown in Figure 1 of the present application, condensation products exit the multi-stage expander 4 at the expander exit 5B, in addition to the draining outlets 5A. The draining outlets 5A draw off liquid condensate from the expander 4 between different stages of expansion, and the expander exit 5B provides condensate from the exit of the expander 4. Thus, the storage tank 7 receives a liquefied unprocessed well stream (LUWS) made up of a mixture of condensation products from each of the draining outlets 5A and the expander exit 5B. The combination of Dobrotwir and Den, though, would merely suggest, at most, having liquid condensate provided to a storage tank at the exit of an expander turbine, rather than between stages and at the exit of the expander as the present application requires. Thus, Dobrotwir and Den would fail to show or suggest the present invention, as recited in claim 1.

Further, claim 1 additionally requires that the unprocessed well stream to be expanded isentropically, or near isentropically, and also have the pressure reduced of the unprocessed well stream during expansion close to that of the storage tank. In addition to failing to show or suggest having condensate provided to a storage tank between stages of expansion, Dobrotwir and Den also fail to show or suggest these additional requirements. Specifically, Dobrotwir and Den remain silent as to the expansion process of the incoming reservoir fluid, thereby merely suggesting that the pressure of the fluid lowers during expansion.

In view of the above, Dobrotwir and Den, whether considered separately or in combination, fail to show or suggest the present invention as recited in independent claim 1, and as required to support a rejection under 35 U.S.C. § 103(a). As such, claim 1 is patentable over Dobrotwir and Den. Dependent claims are patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Rejection of Claim 5

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Dobrotwir in view of in view of Den, and further in view of U.S. Patent No. 7,234,321 ("Maunder"). Independent claim 1, from which claim 5 depends, has been amended in this reply. To the extent that this rejection applies to this claim as amended, this rejection is respectfully traversed.

As discussed above, Dobrotwir and Den, whether considered separately or in combination, neither show nor suggest the present invention as recited in claim 1. Maunder, which the Examiner only asserts as showing the storage tank pressure being set between 10 and 20 bar, does not provide that which Dobrotwir and Den lack, with respect to independent claim

1. Specifically, as with Dobrotwir and Den, Maunders fails to show or suggest having liquid condensate provided to a storage tank in between cycles and at the exit of an expander turbine, as recited in claim 1. In view of above, Dobrotwir, Den, and Maunders, whether considered separately or in combination, fail to show or suggest the present invention as recited in claim 1. Thus, claim 1 is patentable over the proposed combination of Dobrotwir, Den, and Maunders. Claim 5, which depends from claim 1, is allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 17114/007001).

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Respectfully submitted,

By 

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